NOAA Commercial Remote Sensing Licensing and Related Downlink Information

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Licensing Context

- Protect U.S. national security concerns and foreign policy interests
- Advance critical aerospace and information technologies to support U.S. industrial base
- Promote job creation, economic growth, sustainable development, and improved living standards

Legal/Policy Overview

- 1992 Land Remote Sensing Policy Act
- 1994 Presidential Decision Directive 23
- Fiscal Year 1997 National Defense Authorization Act
- August 30, 2000 Regulations (15 CFR Part 960)
- February 2000 Interagency Memorandum of Understanding (Appendix 2 to 15 CFR Part 960)
- June 2002 National Security Presidential Directive-15

Licensing Consultations

- Department of Defense
- Department of State
- Department of Interior
- Intelligence Community
- White House
  - National Security Council
  - Office of Science and Technology Policy
- Department of Commerce
  - International Trade Administration
  - Technology Administration
  - Bureau of Industrial Security

Licensing Actions

- Applications
- Amendments
- Significant Foreign Agreements
- Monitoring and Compliance

Licensing History

- 18 Licenses Granted for 41 Satellites (more than $2 billion in system investment)
- 36 License Amendments and 28 Foreign Partnerships (approximately $800 million)
- General Licensing Thresholds
  - Panchromatic: 0.5 meters
  - Multispectral: 2.0 meters
  - Hyperspectral: 8 meter product, 20 meter data
  - SAR: 3 meters
- "Two-tier" Licensing Options

General License Conditions

- Preserve U.S. national security concerns and foreign policy interests
- "Shutter Control" - Limit imaging when national security and/or foreign policy may be compromised
- USG access to and use of data
- USG review of all significant foreign agreements
- Obligations for Data Provision to "Sensed States"
- Safe disposal of the satellite at end of mission
- Monitoring and compliance requirements
- Additional conditions for the most advanced systems

U.S. Industry Status

- 3 Satellites Currently Operational
- 1 Launch Scheduled in the Coming Year
- 1 License Surrendered
- 3 Inactive Licenses Terminated

DOWNLINK INFORMATION FOR CURRENT SYSTEMS

AstroVision's AVStar 1 and 2 Spacecraft Down Link Information

Narrowband Downlink:
Center frequency = 8371Mhz
Bandwidth = 10 kHz
Polarization = LHCP
Max. EIRP = -7.2 dBW

Wideband Downlink:
Center frequency = 8065 Mhz
Bandwidth = 80 MHz
Polarization = LHCP
Max. EIRP = 43.23 dBW

Wideband Downlink:
Center frequency = 8330 Mhz
Bandwidth = 80 MHz
Polarization = LHCP
Max. EIRP = 43.23 dBW

DigitalGlobe Spacecraft Down Link Information

DigitalGlobe is currently only operating the QuickBird follow-on system.
The specification for the narrowband and wideband downlinks are:

Narrowband Downlink:

Center frequency = 8030.0 MHz
Polarization = RHCP
EIRP = 0 dBW peak

Wideband Downlink:

Center frequency = 8185.0 MHz
Approximate bandwidth = 320 MHz
Polarization = RHCP
EIRP = 28 dBW peak

Space Imaging's IKONOS Spacecraft Down Link Information

Narrowband Downlink:

Center frequency = 8346.0 MHz
Bandwidth = 64 KHz
Polarization = RHCP
Max. EIRP = -7.2 dBW

Wideband Downlink:

Center frequency = 8185 Mhz
Bandwidth = 320 MHz
Polarization = RHCP
Max. EIRP = 30.8 dBW

ORBIMAGE Spacecraft Down Link Information

Spacecraft	Frequency	Data Rate
OrbView-2	L-band 1702.5 Mhz	665.4 Kbps (Imagery)
	L-band 1702.5 Mhz	57.6 Kbps (Telemetry)
	S-band 2287.5 Mhz	2.0 Mbps (On-board Recorder)
OrbView-3	X-band 8190.0 Mhz	150 Mbit (Imagery)
	UHF 401.5 Mhz	19.2 Kbit (Telemetry)

For Further Information

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NOAA Licensing Web Site:
www.licensing.noaa.gov